

MUSEUM OF ZOOLOGY
FEB 25 1963
YALE UNIVERSITY

Postilla

YALE PEABODY MUSEUM
OF NATURAL HISTORY

Number 52

June 28, 1961

New Haven, Conn.

AEGEAN BIRD NOTES I

DESCRIPTIONS OF NEW SUBSPECIES FROM TURKEY

GEORGE E. WATSON

PEABODY MUSEUM, YALE UNIVERSITY

INTRODUCTION

In the course of gathering material for a study of the Aegean avifauna, I was able to collect during March and April, 1960, in south and west Asia Minor. The areas visited extended from Tarsus, İçel, and Pozantı, Seyhan, along the south coast to Muğla and up the west coast to Bursa. Some of the regions visited have been little collected during the early spring. This fresh material revealed that the populations of some species in this area were markedly different from other known populations nearby. Therefore, the following descriptions of new subspecies are presented. The distinctness of some of these populations suggests that biogeographic studies of the Asia Minor avifauna may be rewarding in terms of elucidating eastern Mediterranean late Pleistocene refugia (cf Kosswig, 1955, *Syst. Zool.* 4: 49-73, 96).

I

Prinia gracilis

The population of the Streaked Prinia inhabiting south coastal Asia Minor was found to be consistently different from its nearest geographical relatives and warranted description as a new subspecies. This difference was suggested by the information available to Hartert (1910, *Vög. der pal. Fauna*: 609) and Zedlitz (1911, *Jouru. f. Orn.* 59: 610) but overlooked by them. I therefore propose the name:

***Prinia gracilis akyildzi* subsp. nov.**

TYPE: Adult ♂ (Y.P.M. No. 59196) collected in Antalya, Turkey, March 31, 1960, by George E. Watson.

DIAGNOSIS: Nearest to *P. g. deltae* and *P. g. palästinae* but darker above, with even broader dark-brown shaft-streaks on the back; underparts brighter and more suffused with buff. This character is most noticeable in fresh unworn plumage, but even in late March south Asia Minor birds are separable from spring specimens from Palestine, Syria, and the Nile of Egypt. Brown shaft-streaks are present on the feathers at the sides of the upper breast and form an indistinct necklace. On some specimens shaft-streaks are also present on the flanks. This character clearly separates this race from all others of the species except *P. g. deltae* in which side and breast-streaking is present in some specimens. Tail with less well-defined and narrower black subterminal bars than either *P. g. palästinae* or *P. g. deltae*; tip buffish not whitish as in *P. g. palästinae*. In the reduced width and lack of definition of the subterminal bars this form resembles *P. g. irakensis*, but the back-streaking is far more emphasized and the general color tone is darker, more brown. The culmen averages markedly shorter than in any of the other three races.

MEASUREMENTS: Type, wing, 44; tail, 66; culmen (from skull), 10.6 mm; weight, 6.5 gr. Six other specimens from Antalya, Tarsus, and Adana, south Turkey: 2 ♂ ♂ wing, 42, 42; tail, 65, 60; bill, 11.2, 11 mm; weight, 6.7 gr; 4 ♀ ♀ wing,



41, 41, 39, 37.5; tail, 59, 55, 56, 55; bill, 10.5, 11, 11, 11 mm; weight, 6.7, 6.5, 6.5 gr.

COLOR OF SOFT PARTS: Iris light red-brown, light-brown, or cream; bill flesh or upper mandible brown, lower mandible cream or yellow-cream; feet buffish-flesh or flesh. Apparently the bill color in this species changes to black during the breeding season.

The type series consists of six specimens, two males and four females collected between March 2 and March 31, 1960, at Antalya, and Tarsus, İçel, in south Turkey. In addition, a single male from the American Museum collected in nearby Adana, January 1, 1879, was also examined. A male collected on March 3 is renewing feathers on the center throat. None of the specimens had gonads enlarged for breeding, but males were calling loudly from exposed perches.

RANGE: This race is confined to the coastal fringe of southern Turkey. It extends on the west as far as Antalya and on the east to Adana and probably as far as the Arsuz plain where Kizil Dağ (Mount Amanus) may form a barrier between this race and *P. g. palästinae*. The species has been seen a little farther north at Osmaniye (Danford, 1880, *Ibis* 22: 84); two American Museum specimens from Kara Suleiman, "Syria" (=Karasüleyman, Maraş, Turkey?), approach this form in darker-brown upperparts, broad shaft-streaks, short bill, and reduced black subterminal tail bar; the underparts, however, are very pale, as in *P. g. irakensis*.

REMARKS: This population, the darkest, brownest, and most heavily streaked of the species, is also the northernmost; Antalya is the farthest west that the species has been found in Asia Minor. The population, therefore, comprises the end points of east-west and south-north clines of increasing color saturation from India and Arabia. Another saturated brown population, *P. g. deltae*, occurs along the lower Nile and toward Suez. Southern Turkey is also the western end point of the populations which have narrow or indistinct subterminal tail bars. These range from the Brahmaputra westward across India,

Pakistan, southern Afghanistan, southern Iran, southeast Arabia, Iraq, northern Syria (?) to south coastal Asia Minor.

This new race is named for Zubeyir Akyildiz who shared in my explorations of southern Turkey.

* * * * *

In studying the Asia Minor population of *Prinia gracilis*, I had the opportunity to examine some specimens from Arabia, including the type of *P. g. anguste* Ripley from Bahrein Island and part of the type series of *P. g. carpenteri* de Schauensee and Ripley from Oman. *P. g. anguste*, based on a single worn July specimen, is said to differ from *P. g. hufufae*, the population of the adjacent mainland, in being darker and more brownish-gray with narrower shaft-streaks. The only specimens of *P. g. hufufae* available to me are five freshly molted November birds of the Cox-Cheeseman type series in the American Museum of Natural History. I can find no character in the type of *P. g. anguste* compared with this series which I would not attribute to the birds being collected at different times of the year. Meinertzhagen (1954, *Birds of Arabia*: 219) states that a specimen he collected on Bahrein is identical with mainland birds.

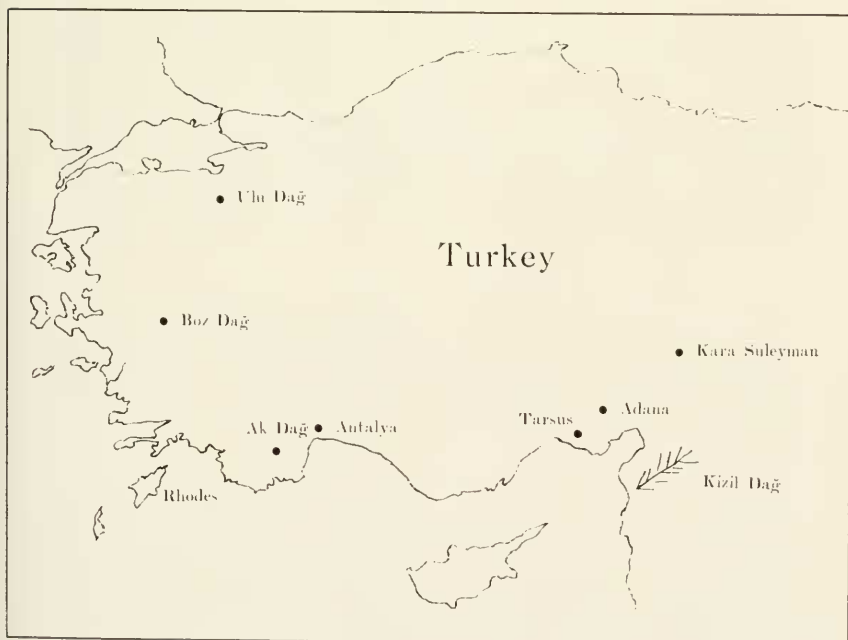
P. g. carpenteri from Muscat, Oman, is a well-marked race. It differs sharply from *P. g. hufufae* to the north in its narrower and less distinct subterminal tail bars; from *P. g. yemenensis* to the west in its more distinctly cross-rayed tail and more finely pencilled head and back-streaking; and from *P. g. irakensis* from Iraq and southwestern Iran and *P. g. lepida* from southern Iran, Afghanistan, and northwestern India in its darker back coloration and more prominent subterminal tail bars. I cannot agree with Meinertzhagen (*ibid*: 220) and lump Oman specimens with *P. g. lepida*.

II

Erithacus rubecula

The Robin varies clinally and occasionally markedly over its continental Palearctic range. As shown by Lack (1946, 1947, *Bull. Brit. Orn. Cl.* 66: 55-65; 67: 51-54; and 1951,

Ibis 93: 629-30), there is a widespread north and central European form (*E. r. rubecula*) with olive-brown upperparts, brownish tail and upper tail coverts, and reddish-orange throat and breast. To the east, populations occur in Caucasia (*E. r. caucasicus*) and Iran (*E. r. hyrcanus*) with darker backs and breasts and with a strong rufous tinge to the sides of the tail and upper tail coverts. In the Urals there breeds a somewhat reddish-tailed, but strikingly pale gray-backed form (*E. r. tataricus*). In Spain and Italy Robins tend to be darker, approaching the north African form (*E. r. zitherbyi*). An isolated slightly grayish-backed population (*E. r. atlas*) is found in northwest Morocco. On the other hand, a different clinal tendency starts in Yugoslavia. Extending through southern Greece and across Bulgaria to Asia Minor, Robins are markedly gray above and paler below, but even Turkish specimens have the brownish tail of the European populations.



Lack refrained from giving this southeast population a name but noted its existence, especially pronounced in Bulgaria, although he later (1951, *Ibis* 93: 629-630) believed that the grayishness was merely due to wear rather than valid geographic variation. Stresemann (1920, *Avifauna Macedonia: 179-180*) also noted gray spring specimens in Macedonia. Examples of the gray form have been found near Bursa in northwest Turkey by Mrs. Scott-Neuhauser (1948, *Seuckenberiana* 28: 177), but she collected what appears to be *E. r. caucasicus* in Rize. Koller (1948, *Seuckenberiana* 28: 177) collected a dark specimen ("*E. r. xanthothorax*" = *E. r. caucasicus* on passage towards the Aegean?) in Bolu.

The lack of a nomenclaturally recognized population breeding in Asia Minor has led to confusion about the identity and origin of the wintering populations of the Aegean (e.g. what to do with *E. r. xanthothorax*). The very marked gray character of Asia Minor birds and the reddish tail and upper tail coverts of Caucasian and other eastern populations makes them both equally separable from the brownish-backed and tailed European populations. The nomenclatural recognition of this Balkan gray cline will perhaps lead to more meaningful discussion of geographic variation in the eastern part of the species range and will certainly make the nomenclature better balanced, since all other clinal trends are named or overnamed. Therefore, the most extreme population of this gray cline is given the name:

***Erithacus rubecula balcanicus* subsp. nov.**

TYPE: Adult ♂ (Y.P.M. No. 59198) collected on Boz Dağ, Odemis, Izmir in western Turkey at 4,200 feet on April 20, 1960, by George E. Watson.

DIAGNOSIS: Differs sharply from all other subspecies in its concolorous olive-gray back and rump, brownish flanks, pale-orange underparts, and grayish brown-edged rectrices. The grayish upper tail coverts are most diagnostic of this form. The population tends toward nominate *E. r. rubecula* in northern Yugoslavia and is grayest in north and west Asia Minor.

No difference from the nominate form in length of wing, tail, and culmen, or weight.

MEASUREMENTS: Type, wing, 70; tail, 56; culmen, 15 mm; weight, 17.5 gr; 2 ♂♂ wing, 71, 71; tail, 59, 58; culmen, 14, 14.5 mm; weight, 18.3, 18.7 gr; 4 ♀♀ wing, 70, 68, 71.5, 71.5; tail, 56, 56, 56, 58; culmen, 15.2, 14.2, 13.8, 14 mm; weight, 22 (laying), 21.5 (laying), 17, 17.

The type series consists of seven specimens, one breeding male and two laying females from Boz Dağ (March 20, 21), and four wintering specimens from Antalya, south Turkey, and the Aegean islands of Icaria and Andros (February and March). In addition, nine breeding and wintering specimens were examined from Bosnia and Herzegovina.

RANGE: Breeds from northern Yugoslavia south through the Balkans to southernmost peninsular Greece (rare in the Peloponnesus) and across Bulgaria to northern and western but apparently not southern Asia Minor. At the eastern limits of its range in Asia Minor it may meet a reddish-tailed population of *E. r. caucasicus* probably near Samsun or Trabzon, but breeding specimens are lacking from this area. In the southern part of its range, breeding is confined to the mountains, both in conifer (*Abies*) and deciduous forests and open woods. In winter, individuals move to lower altitudes, and some birds may spread into the Aegean islands (Andros, Icaria) and to the south coast of Turkey (Antalya).

REMARKS: It is possible that a discontinuity exists between the birds of southern Bulgaria and those of northwest Asia Minor. Nothing would be gained, however, in further separating the cline on this slight difference. In the Aegean islands and in the southern Balkan Peninsula *E. r. rubecula* is also found wintering. See below for a discussion of "*E. r. xanthothorax*."

This Balkan cline probably results from the northwestward post-glacial expansion of an isolated forest population from the Mediterranean "pluvial" refuge into which the birds retreated during the Würm glacial advance.

I propose this new subspecies fully aware of the "tyranny of subspecific names" (Lack 1946, *Bull. Brit. Orn. Cl.* 66: 63) in the Robin. Partially following Dr. Lack's admonition, I have given this population the most appropriate geographic name available for the entire range.

* * * * *

Many authors have questioned the validity of *E. r. xanthothorax* Salvadori and Festa (1913, *Bull. Mus. Zool. Anat. Comp. Torino* 28: 15). This name is based on a series of five birds collected during February and March in Rhodes in the south Aegean. The characters cited in the description clearly mark the birds as belonging to a reddish-tailed southeastern form. Robins are common on Rhodes during the winter. Most had left but I located a few on March 30, 1959; following that date no more were seen. A Rhodian forest guard, who was well aware of the identity of the bird, told me that no Robins would be seen again until October. The type series in Turin is too old and dirty to distinguish much color definition, but on the basis of the type description and the following measurements (personally taken) including the type, the series belongs with the shorter-billed Caucasian birds, rather than with the Iranian form: 1 ♂ (type) wing, 72; tail, 51; culmen, 14.5 mm; 2 ♀ ♀ wing, 71, 70; tail, 53.5, 53.5; culmen, 15, 14.5 mm; 1 ♂ wing, 69; tail, 53; culmen, 14.5 mm; I therefore endorse Vaurie's (1958, *Birds Pal. Fauna*: 376) decision in synonymizing the name *E. r. xanthothorax* with *E. r. caucasicus*.

III

Prunella modularis

A very dark gray population of Hedge Sparrow breeds in the fir forest up to the tree limit on Ulu Dağ above Bursa in northwest Turkey. The two males collected necessitated comparison with series from nearby breeding localities. This comparison revealed that the Asia Minor birds differ sharply from nearby Balkan and Caucasian and Iranian birds and

further suggested that the Balkan population *P. m. meinertzhageni* Harrison and Pateff is merely the extremely dark end point on a continental cline of increasing grayness.

There are two well-marked groups of populations of Hedge Sparrows in southeast Europe and southwest Asia. The grayish nominate group *modularis*, with black back-spotting, breeds over most of Europe down to southern Bulgaria and northern Greece (Peus, 1957, *Mitt. Zool. Mus. Berlin* 33: 275). The browner *obscura* form, with brown back-spotting breeds in the Caucasus and northern Iran.

The Balkan population *meinertzhageni* is an extreme form of the *modularis* group. The gray of the underparts is darker and more extensive than in the nominate race; whitish flecking is reduced or absent. Above, the bird is a trifle grayer with larger darker spots. Most wintering Hedge Sparrows from the Aegean are separable into two categories. Most of those collected in the north, in Epirus and Macedonia and in the Asia Minor islands, belong to the *meinertzhageni* population, and most of those from the south and in the Cyclades are northern European *P. m. modularis*. Iranian and Caucasian birds differ from each other mainly in degree. Caucasian birds are darker and the gray of the underparts is more extensive.

On the other hand, the two breeding males from Ulu Dağ show some blending of characters but differ from both these forms in several characters and I therefore propose the name:

***Prunella modularis euxina* subsp. nov.**

TYPE: Adult ♂ (Y.P.M. No. 59297) collected on Ulu Dağ (= Asiatic Mount Olympus of some authors), Bursa, north-west Turkey, April 29, 1960, by George E. Watson.

DIAGNOSIS: Head light ashy-gray heavily streaked with brown; superciliary buffy-gray; back light reddish-brown with darker-brown spots; rump and upper tail coverts brownish-gray; underparts dark ashy-gray with white on the center of the abdomen, some of the lower breast feathers tipped with white, sides of upper breast washed with brown; flanks moderately streaked with the same brown as the back; under tail

coverts gray-brown. In dorsal coloration, this form is closest to *P. m. obscura* in having brown not black spotting, but it differs from eastern birds mainly in its grayer and darker underparts and the lesser extent of white on the abdomen. It is even darker gray below than the darkest individuals of *P. m. modularis* from the Balkans. From both subspecies it differs in having gray, not brown rump and upper tail coverts and in having the flanks much less strongly marked with brown.

	<i>P. m. modularis</i>	<i>P. m. euxina</i>	<i>P. m. obscura</i>
Crown	gray with brown streaks	light ashy-gray with light-brown streaks	gray-brown with brown streaks
Superciliary	dark-gray	buffy-gray	gray-buff
Dorsal spotting	black	brown	brown
Rump and upper tail coverts	brown	gray	brown
Underparts	gray	dark-gray	light brownish-gray
Flanks	heavy brown streaks	restricted streaking	heavy brown streaks
Under tail coverts	dark brownish-gray	light-gray	brownish-gray

MEASUREMENTS: Type and one other ♂: wing, 69, 68.5; tail, 57, 56; culmen (from skull), 13, 14 mm; weight, 22, 21 gr.

RANGE: Mountainous fir forests of northern Asia Minor. Eastern limits of range unknown but probably meets *P. m. obscura* in Transcaucasia or Turkish Armenia. Probably somewhat migratory (wing length and formula same as other migratory populations) but winter range unknown.

REMARKS: Although there is some introgression of characters of the eastern populations into this north Asia Minor population, the much darker-gray underparts and gray rump suggest that it is on a separate evolutionary line, one that has perhaps developed *in situ* in the thick fir forests of the rainy north coast. The fact that the Bursa population is also so sharply different in several characters from the Balkan form further suggests that this population is isolated from the

European birds as well. And in fact there are no high coniferous forests in European Turkey. The Ulu Dağ population therefore constitutes the end point of an Asia Minor cline running westward from the Caucasus.

In habitat the north Asia Minor population differs somewhat from northern and especially western European birds. It is found confined to the fir forest and tree line scrub in Turkey, but the same species is a bird of deciduous gardens and hedgerows in western Europe, and also open conifer woods in north central Europe. Northern birds wintering in the Aegean are usually to be found in lowland macchia or open woods undergrowth.

A single female collected March 7, 1960, above Tarsus in the foothills of the Cilician Taurus Mountains is clearly a wintering example of the nominate race from northern Europe. It is impossible to separate from the paler winter specimens from the Aegean. Danforth also collected winter *P. m. modularis* in the Taurus in 1879 (*Cat. Birds Brit. Mus.* 7: 652). Apparently, only light-colored migrants with white-flecked breasts were collected in northern Asia Minor by Kummerlöwe and Niethammer (1935, *Journ. f. Orn.* 83: 40), Rössner (1934: *Akad. Wiss. Wien math-natur. Klasse Sitz.* 1944: 307), and Mrs. Scott-Neuhausser (1948, *Seuckenberghiana* 28: 178), although the first pair of collectors undoubtedly earlier observed breeding birds. The new subspecific name is derived from the classical epithet for the present-day Black Sea which marks the northern limit of this population.

IV

Montifringilla nivalis

Three well-marked groups of populations of Snow Finch occur in the Palearctic. The *nivalis* group of southern Europe has brown upperparts and a gray head; the variable *alpicola* group of central Asia has a brown head and back; and the *heurici* group of Tibet is uniform brown above but washed with gray-brown below. Nine specimens from south Asia Minor belong to the *alpicola* group, in which there are four fairly

well-marked races. *M. n. alpicola* has an extensive range from the Caucasian Mountains south into Turkish Armenia, where the exact western limits of the range are unknown, and eastward across northern Iran towards Afghanistan and into the Tian Shan range. In southern Iran, in the Zagros, a markedly paler race *M. n. gaddi* occurs; in Mongolia another pale race *M. n. groum-grzimali* is found. These three races are long-billed. A very pale-sandy and short-billed race *M. n. kwen-lunensis* occurs in the Kun Lun and Astin Tagh ranges. The south Asia Minor population, which is isolated from these four populations, differs in being lighter in color and showing characters which approach the European *nivalis* group. For this isolated southern population I propose the name:

***Montifringilla nivalis fahrettini* subsp. nov.**

TYPE: Adult ♂ (Y.P.M. No. 59445) collected at 6,400 feet on Ak Dağ, Kaş, Antalya, southern Turkey on March 25, 1960, by George E. Watson.

DIAGNOSIS: Closest to *M. n. gaddi* but much paler and grayer on the back, less reddish-tan and with a pronounced grayish tinge on the crown, whereas Zagros birds have the head essentially the same color as the back. Wing and bill in the spring adult much shorter than in the Zagros population at the same season. Differs from *M. n. alpicola* in its markedly lighter and less brown upperparts and in having a shorter bill and wing. Differs from *M. n. nivalis* in much lighter upperparts, less distinctly gray head, shorter wing, and lighter weight.

MEASUREMENTS: Type, wing, 112; tail, 68; bill from skull, 14.5 mm; weight, 33 gr, 4 ♂ ♂ wing, 111, 117, 115, 115, (mean of 5: 114); tail, 68, 71, 69, 70 (69); bill, 13.5, 14, 14.5, 14.1 (14.1); weight, 31, 33, 34, 35.5 (33.3); 4 ♀ ♀ wing, 110, 111, 116, 106, (111.3); tail, 65, 62, 73, 64 (66); bill, 14, 14.5, 14, 14 (14.1); weight, 32.5, 32.5, 33, 28.5 (31.6).

M. n. nivalis (Greece), 4 ♂ ♂ wing, 116-120 (119); tail, 67-72 (69.5); bill, 13.5-14 (13.6); weight, 37-40 (38.1); 1 ♀ wing, 116; tail, 64; bill, 13.5 mm; weight, 37 gr.

M. n. alpicola, 10 ♂ ♂ wing, 117-112 (118.9); 7 ♂ ♂ tail, 66-71 (68.9); 10 ♂ ♂ bill, 16-17.5 (16.4); 4 ♀ ♀ wing, 110-115 (112); 3 ♀ ♀ tail, 62, 66, 72 (66); 4 ♀ ♀ bill, 15-16.5 (15.88).

M. n. gaddi, 19 ♂ ♂ wing, 116-126 (119.3); 18 ♂ ♂ tail, 68-76 (71.5); 18 ♂ ♂ bill, 15-17.5 (16.2); 4 ♀ ♀ wing, 112-116 (114.3); 5 ♀ ♀ tail, 65-71 (68.5); 5 ♀ ♀ bill, 15-16 (15.6). Measurements of *M. n. alpicola* and *M. n. gaddi* are taken from Vaurie (1949, *Amer. Mus. Novitates* 1406: 29).

Summer collected specimens of this species tend to have shorter and more worn bills than winter birds (Stegmann 1932, *Journ. f. Orn.* 80: 99). This is perhaps related to a change in diet from insects picked off snow to seeds picked and scratched from bare rocky soil. It should be pointed out, however, that late March *M. n. fahrettini* were compared with late March *M. n. gaddi*. The bills were found to be markedly longer and more attenuated in the Zagros birds. A young January specimen from the north Zagros does have a short bill, but not as short as that of the longest-billed Asia Minor bird. Furthermore, Vaurie's measurements were taken on birds collected at all times of the year, including January and February as well as spring and summer. His shortest measurements for *M. n. gaddi* and *M. n. alpicola* do not overlap at all the longest measurements of the Asia Minor population. Taking the bill measurements of five examples of each of the four populations (data from Vaurie *ibid.*: 28) and of the two populations *M. n. gaddi* and *M. n. fahrettini* and comparing them gives the following variance ratio table:

	df	ss	ms	VR
Between				
4 groups	3	25.8	8.6	21.5
2 groups	1	7.9	7.9	46.6
Within				
4 groups	16	6.5	.4	
2 groups	8	1.4	.17	
Total				
4 groups	19	2.27		
2 groups	9	9.3		

Had all the measurements available for *M. n. alpicola* and *M. n. gaddi* populations been taken during the same season, the statistical results would have been even more striking.

The type series consists of nine birds collected on March 25 and 29 at from 6,000 to 7,300 feet on Ak, Kohu, and Mancarli Dağları near Elmali, Antalya, in south Turkey. The gonads were little enlarged and the birds were still feeding in flocks.

RANGE: Occurs on the highest mountain tops in the Bey and Taurus mountain ranges of south Turkey and probably on Mounts Lebanon and Hermon; resident but descending to about 6,000 feet in winter.

REMARKS: The only other record of this species from south Turkey is that of Danford (1878, *Ibis* 20: 23) who included the species in his list "with some hesitation" on the basis of a sight record on Anaş Dağ in the Taurus north of Adana. Snow Finches were observed by Tristram (1868, *Ibis* 10: 208) on the peaks of Mounts Lebanon and Hermon. I failed to find the species on Boz Dağ, Izmir (ca. 7,100 feet), or Ulu Dağ (Bursa 8,343 feet) in mid- and late April. It is doubtful whether there are any other mountains in western and northwestern Asia Minor high enough to support breeding populations of Snow Finches, so that *M. n. fahrettini* is separated from the European populations of the species. On the other hand, it may well occur through the anti-Taurus and in Kurdistan and therefore be continuous with the Iranian populations, but it has not yet been found in southeastern Turkey or northern Iraq.

Five adult and two juvenal specimens of Snow Finch, *M. n. nivalis*, from Greece constitute only the second record of this species from that country verified by specimens. Reisor (1895, *Ornis Bal.* 3: 23) found the bird on Vardusia, Makatsch (1950, *Die Vögelwelt Maccedoniens*: 117) probably saw the bird on Olympus, and Flach (*in litt.*) recorded Snow Finches on Parnassos. The specimens are from Vardusia and Parnassos. The species was not found on any of the Peloponnesian mountain tops in spite of repeated searches.

In their distribution the populations of Snow Finches show the type of disjunction common to glacial relicts. It is possible

that when the climate of the Eastern Mediterranean was more rigorous during the retreat of the Würm glaciation, many of the mountains throughout the Aegean basin may have harbored populations of these Snow Finches. As the climate grew warmer and the snow disappeared from all but the highest peaks, extensive suitable habitats disappeared and the disjunct distribution of today came about. The south Turkey population, which shares the tendency toward a grayish head and a short bill with the European population, is evidence that such must have been the past history of the species in the eastern Mediterranean.

The new subspecies is named for Fahrettin Özgecil of the Turkish Forest Department, who accompanied me on my travels in the western sector of his country.

ACKNOWLEDGEMENTS

I am grateful to the following persons for aid in arranging this trip and for hospitality received while making the collection in Turkey: Ambassador Ellis O. Briggs, Athens; William A. Helseth, Ankara; Orhan Sağnak, forest director of İçel; Zubeyir Akyıldız, forest engineer in Ankara; and Fahrettin Özgecil, chief forest engineer in Antalya. Without their generous aid the trip would not have been so fruitful. I have borrowed specimens from the American Museum of Natural History and have discussed taxonomic points with Dr. Charles Vaurie. Dr. S. Dillon Ripley has examined some of the material with me. This research was conducted while I was a National Science Foundation predoctoral fellow.